

the referees upon their opinion; and upon such grounds they issued the summons.

The peculiarity of this case is, that an admitted legal notice was given under the then existing Act, neither that nor the present Act in any way controlling the progress of works, except that under the new Act, if suspended for a certain period, fresh notice must be given, evidently only to inform the district surveyor when the works being in operation require his superintendence; sec. 13. A controlment of time as to roofing in (for finishing I repudiate, see my letter in your journal of the 8th inst.) clearly applies to houses commenced before 1st January, and that only in new districts.

I also contend that any the slightest commencement is provided for in schedule A, having been so commenced upon legal notice under the former Act, and I must presume this schedule has been overlooked in the issuing of the summons, inasmuch as the schedule declares the former Act, 14 Geo. 3, c. 78, is repealed except as to certain points, one of which precisely meets this question:—"And except as to offences committed, penalties incurred, and fees payable, and any proceedings taken or commenced, or which might be taken or commenced under the said Act on or before the said 1st day of January, 1845." I contend that the word "proceedings" must be taken in as large a sense as the word "commencement." Legal notice having been given, the works if not, "might have been commenced," and to prove that it could not mean legal proceedings, it will be necessary only to proceed through a few more paragraphs of the "Extent of Repair," where we find, to prevent any doubt, it is stated, "and to legal proceedings in respect of accidental fires." The party complained of would willingly have given a fresh notice under the new Act, as the thickness of walls, &c. would have been precisely similar; but the sanction of the referees to the further ground of complaint of the district surveyor, that these buildings projected beyond the general line of houses, would have implied the impossibility of building on the ground if the present footings were repudiated. This is a question of considerable importance in future operations, and I will endeavour to prove in a subsequent letter, that whatever the intention of the Act may have been, there is no such existing enactment.

Your obedient servant,
GREENWAY ROBINS, Architect.
Hill-street, Peckham, Feb. 15, 1845.

SHOP-FRONTS UNDER NEW BUILDINGS ACT.
SIR,—In schedule E of the new Metropolitan Buildings Act, under the head "Wooden Shop-fronts and Shutters," it is stated that the woodwork of any shop-front must not be fixed nearer than 4½ inches to the centre line of a party-wall. Again, the succeeding clause requires that, in case the woodwork be fixed at such distance, then a pier or corbel, built of stone or of brick, and of the width of 4½ inches, must be fixed in the line of the party-wall, so as to be as high as such woodwork, and so as to project one inch, at the least, in front of the face thereof. Does this mean that an unsightly mass of brickwork is to be carried out from the face of an external wall to the distance of 4½ inch beyond the projection of the cornice, or merely have reference to breastsummers and story-posts? Your valuable opinion upon these points will confer a favour upon, Sir, yours obediently,
A SUBSCRIBER.

Islington, February 12, 1845.

[The words of the Act are perfectly clear. If the woodwork be put up 4½ inches from the centre line of the party-wall, a pier or corbel, 4½ inches wide, built of stone or brick, or other incombustible material, must be fixed in the line of the party-wall, so as to project one inch, at the least, in front of the face of such woodwork. The object, and a very important one, is, of course, to prevent the communication of fire from house to house by means of the entablature. We do not wish to suggest evasion; but it is obvious that if the woodwork be any thing more than 4½ inches, say even 5 inches, the corbel cannot be insisted on. For the general good, however, the intention of the enactment should be adhered to. It will not be difficult to prevent the corbel or pier from injuring the appearance of the front; better still, the entablature, &c., may be formed of incombustible material.—En.]

Miscellaneous.

DIVING BELLS.—The first diving bell we read of was nothing but a very large kettle suspended by ropes, with the mouth downwards, and planks to sit on fixed in the centre of the concavity. Two Greeks at Toledo, in 1583, made an experiment with it before the Emperor Charles V. They descended in it with a lighted candle to a considerable depth. In 1663, William Phipps, the son of a blacksmith, formed a project for unloading a rich Spanish vessel sunk on the coast of Hispaniola. Charles II. gave him a ship, with every thing necessary for his undertaking, but being unsuccessful, he returned in great poverty. He then endeavoured to procure another vessel; but failing, he got a subscription, to which the Duke of Albemarle contributed. In 1687, Phipps set sail in a ship of 200 tons, having previously engaged to divide the profits according to the twenty shares of which the subscription consisted. At first, all his labours proved fruitless; but at last, when he seemed almost to despair, he was fortunate enough to bring up so much treasure that he returned to England with the value of 200,000*l*. Of this he got about 20,000*l*, and the Duke of Albemarle 30,000*l*. Phipps was knighted by the king, and laid the foundation of the fortunes of the present noble house of Mulgrave. Since that time, diving bells have been often successfully employed.—*Mechanics' Magazine*.

CASE-HARDENING OF IRON NAILS, SCREWS, &c.—When electro-deposition is used in coating iron with copper, the iron is liable to be corroded either during the process or afterwards, an oxide of iron being formed beneath the copper coating. To prevent this, it is proposed to coat, or case-harden, the iron with lead, or an alloy of lead, before the coating of copper by electro-deposition is applied. A patent for this invention has lately been granted to Benjamin Branton Blackwell, of Newcastle-on-Tyne, Gent.; and William Norris, of Exeter, C. E. The case-hardening is performed by first freeing the surface of the articles from any scale that may attach to them, and then placing them, with purings of hoof, horn, or bone-dust, in a crucible well luted, and subjecting them to a red heat, taking care to remove the articles as soon as a thin surface of case-hardening is obtained. The articles may be coated with lead or an alloy of lead, by first freeing their surfaces from scale, and then plunging them into a vessel of the metal in a molten state. The alloys of lead which are preferred for the purpose here stated are, first, from one-tenth to one-fifth of tin combined with a given quantity of pure lead; and secondly, one part of antimony, two parts of tin, and fifteen parts of pure lead. When the articles have received this first coating, they are next to be placed in a solution of copper exposed to the influence of a galvanic battery kept at a temperature of from 50° to 110° of Fahrenheit. The claim of the patentees consists in first coating the articles with lead or an alloy of lead, and afterwards coating them with copper by means of galvanism.

IMPROVEMENTS IN LEAD-PIPES.—A patent for this purpose has recently been secured in America by Messrs. C. and G. E. Sellers, of Cincinnati. In manufacturing lead-pipes by this process, the metal from which it is to be formed is fused, and poured into a receiver of cast-iron, or other metal of great strength, which receiver is heated by means of a suitable furnace, so as to preserve the metal in a fluid state. The lower part of the receiver contains a die, having an opening through it of such size as to adapt it to the forming of the outside of the pipe, and a case of mandrel to determine its size &c. calibre within. It also included the apparatus which is employed for the purpose of cooling the pipe as it leaves the core, and also of keeping the temperature of the core below that of melted lead, by which means we effectively prevent the combining of the lead with the surface of the core, which takes place when lead is in a fused state, and is subjected to heavy pressure. The fused lead is to be forced out by means of a ram or plunger, made to fit the cylindrical cavity containing the lead, the said plunger being brought down by means of an hydrostatic press. The patentees state that "what we claim as our invention is the employment of a tubular core or mandrel, divided longitudinally into chambers, through

which heated water, air, or steam, is to be passed, in the manner described, and for the purpose of preserving the said core at a temperature somewhat below that of melted lead, by which device the lead is effectually prevented from adhering to the mandrel. We claim the manner of forming the packing of the ram, by attaching to its end the piece of wrought-iron, rendered thin at its lower edge, by forming the face of the said piece concave, for the purpose above set forth. (The purpose here alluded to is, keeping the piston tight, and preventing the escape of the melted lead around the edges of the ram or piston.) We claim the combination and arrangement of the parts constituting the water-chamber, consisting of the tube, the bed-piece, and the conical die—the supply of water thereto being given, and governed substantially as described.

ANTHONY'S OAK.—This curious specimen of Roman masonry was destroyed many years since. In a work entitled *Caledonia Romana*, recently published by Bell and Bradfute, it is thus described:—"This building was of a circular form, its shape in some measure resembling that of a common bee-hive. It measured at the base from twenty-nine to thirty yards in circumference, and continued of the same dimensions to the height of eight feet, from which point it converged gradually inwards to its ascent, till at an elevation of 22 feet, the walls terminated in a circle, leaving in the top of the dome a round opening 12 feet in diameter. On its western side was an arched doorway, 9 feet in extreme height, and above it an aperture resembling a window, of a slightly triangular form, 3 feet in height, and averaging nearly the same in width. The whole was formed of hewn freestone, laid in regular horizontal courses, the first of them resting upon a thick massive basement of the same material, which, to follow out the simile, represented with curious fidelity the common circular board on which the cottage hive is usually placed. The interior of the structure corresponded with its general appearance from without; the only difference being in the concavity of the shape, and in its having two projecting stone cornices round its interior surface, the one at a height of 4 and the other of 6 feet from the ground. The style of the workmanship was singularly perfect, and shewed an intimate acquaintance with masonic art. No cement of any description had been made use of in its construction, yet the stones were so accurately joined together, that even the difficult process of forming so diminutive a cupola by the concentration of horizontal courses was accomplished there in the most skilful and enduring manner."

NOTICES OF CONTRACTS.

For the execution of the whole Works on the Slammann Junction of the Edinburgh and Glasgow Railway, being about a mile long.—H. G. Wright, Secretary, Railway Office, Queen-street, Glasgow. February 21.

For such Mason's and Pavior's works (stone paving only) as may be required by the Commissioners of Sewers of the City of London, for the term of three years, from the 25th of March next. Joseph Daw, Esq., Guildhall, London.—February 25.

For the supply of Granite or other hard stone for the service of the Stone's End district of the Surrey and Sussex Roads.—Road Office, Charing Cross, and W. S. Gaskell, Esq., 21, Stamford-street, Blackfriars' Road.

For the supply of from 4,000 to 5,000 yards of Iron Railing for inside drives of Birkenhead park.—Mr. Hornblower, Architect, Hamilton-buildings, 67, Mr. Walker, Town-hall, Birkenhead.—February 26.

For supplying the Great Western Railway Company with such quantity of the following articles as may be required from the 1st of April, 1845, to the 31st of March, 1846: viz. Bar and Pig Iron—Castings—Bolts and Rivets—Copper (sheet and ingots)—Ironmongery, screws and nails—Brass and Iron clasp, sheet tacks and wirework—Lead and Zinc—Steel for springs—Timber—Tubes, brass, copper, iron and zinc—Patent Wheel-tire, and various other articles.—Chas. A. Saunders, Esq., Secretary, Paddington.—February 27.

For taking down and rebuilding the Tower of Grendon Church.—Mr. John Baker, Churchwarden, Grendon, near Atherstone. March 1.

For building twelve Boats and Engines for the City Steam Boat Company.—Charles Hancock, 17, Earl-street, Blackfriars.